Complete Summary

GUIDELINE TITLE

Diagnosis and management of preeclampsia and eclampsia.

BIBLIOGRAPHIC SOURCE(S)

American College of Obstetricians and Gynecologists (ACOG). Diagnosis and management of preeclampsia and eclampsia. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2002 Jan. 9 p. (ACOG practice bulletin; no. 33). [63 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Preeclampsia including HELLP (hemolysis, elevated liver enzymes, and low platelet counts) syndrome
- Eclampsia

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management

CLINICAL SPECIALTY

Obstetrics and Gynecology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

- To aid practitioners in making decisions about appropriate obstetric and gynecologic care
- To provide guidelines for the diagnosis and management of hypertensive disorders unique to pregnancy (i.e., preeclampsia and eclampsia), as well as the various associated complications

TARGET POPULATION

Pregnant women with preeclampsia and eclampsia

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Assessment

1. Assessment of risk factors
2. Physical examination including blood pressure measurement
3. Laboratory tests including blood test, urinalysis, liver function assessment

Management/Treatment

1. Expectant management in cases of mild preeclampsia consisting of fetal and maternal evaluation.
    - Fetal evaluation: weekly nonstress tests, biophysical profiles, daily fetal movement assessment, ultrasound examination for fetal growth, amniotic fluid assessment.
    - Maternal evaluation: frequent evaluation for worsening preeclampsia, platelet count, liver enzymes, renal function, 12-hour to 24-hour urine collection for protein
2. Tertiary care setting or consultation with an obstetrician-gynecologist experienced in management of high-risk pregnancies in cases of severe preeclampsia in women remote from term; daily laboratory evaluation and fetal surveillance
3. Prompt delivering of women with hemolysis, elevated liver enzymes, and low platelet counts (HELLP syndrome)
4. Magnesium sulfate for the prevention and treatment of seizures in severe preeclampsia and eclampsia
5. Antihypertensive therapy with hydralazine and labetalol for diastolic blood pressure $\geq$105-110 mmHg
6. Invasive hemodynamic monitoring in preeclamptic women with severe cardiac disease, renal disease, refractory hypertension, pulmonary edema, or unexplained oliguria.
7. Regional or neuraxial analgesia/anesthesia for intrapartum management of severe preeclampsia in the absence of coagulopathy

8. Vaginal delivery at term in women with mild preeclampsia; induction of labor in women with severe preeclampsia

Note: Low-dose aspirin and daily calcium supplementation were each considered for prevention of preeclampsia but were not recommended.

MAJOR OUTCOMES CONSIDERED

- Outpatient management in women with preeclampsia
- Efficacy of magnesium sulfate in women with severe preeclampsia and eclampsia during labor and delivery
- Optimal mode of delivery for women with preeclampsia
- Maternal and fetal complications associated with severe preeclampsia, eclampsia, and hemolysis, elevated liver enzymes, and low platelet counts (HELLP syndrome)
- Maternal and fetal morbidity and mortality

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The MEDLINE database, the Cochrane Library, and American College of Obstetricians and Gynecologists' (ACOG's) own internal resources and documents were used to conduct a literature search to locate relevant articles published between January 1985 and January 2001. The search was restricted to articles published in the English language. Priority was given to articles reporting results of original research, although review articles and commentaries also were consulted. Abstracts of research presented at symposia and scientific conferences were not considered adequate for inclusion in this document.

Guidelines published by organizations or institutions such as the National Institutes of Health and the American College of Obstetricians and Gynecologists were reviewed, and additional studies were located by reviewing bibliographies of identified articles.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Studies were reviewed and evaluated for quality according to the method outlined by the U.S. Preventive Services Task Force:

I Evidence obtained from at least one properly designed randomized controlled trial

II-1 Evidence obtained from well-designed controlled trials without randomization

II-2 Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Analysis of available evidence was given priority in formulating recommendations. When reliable research was not available, expert opinions from obstetrician-gynecologists were used. See also the "Rating Scheme for the Strength of Recommendations" field regarding Grade C recommendations.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Practice Bulletins are validated by two internal clinical review panels composed of practicing obstetrician-gynecologists, generalists and subspecialists. The final guidelines are also reviewed and approved by the American College of Obstetricians and Gynecologists (ACOG) Executive Board.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The grades of evidence (I-III) and levels of recommendations (A-C) are defined at the end of "Major Recommendations" field.

The following recommendations are based on good and consistent scientific evidence (Level A):

- Magnesium sulfate should be used for the prevention and treatment of seizures in women with severe preeclampsia or eclampsia.
- If analgesia/anesthesia is required, regional or neuraxial analgesia/anesthesia should be used because it is efficacious and safe for intrapartum management of women with severe preeclampsia in the absence of coagulopathy.
- Low-dose aspirin has not been shown to prevent preeclampsia in women at low risk and, therefore, is not recommended.
- Daily calcium supplementation has not been shown to prevent preeclampsia and, therefore, is not recommended.

The following recommendations are based on limited or inconsistent scientific evidence (Level B):

- The management of a woman with severe preeclampsia remote from term is best accomplished in a tertiary care setting or in consultation with an obstetrician–gynecologist with training, experience, and demonstrated competence in the management of high-risk pregnancies, such as a maternal–fetal medicine subspecialist.
- Practitioners should be aware that although various laboratory tests may be useful in the management of women with preeclampsia, to date there is no reliable predictive test for preeclampsia.

- Invasive hemodynamic monitoring should be considered in preeclamptic women with severe cardiac disease, renal disease, refractory hypertension, pulmonary edema, or unexplained oliguria.

The following recommendations are based primarily on consensus and expert opinion (Level C):

- Women should be considered as having severe preeclampsia if they have blood pressure levels of 160 mm Hg systolic or higher or 110 mm Hg diastolic or higher on two occasions at least 6 hours apart while the patient is on bed rest, proteinuria of 5 g or higher in a 24-hour urine specimen or 3+ or greater on two random urine samples collected at least 4 hours apart, oliguria of less than 500 mL in 24 hours, cerebral or visual disturbances, pulmonary edema or cyanosis, epigastric or right upper-quadrant pain, elevated liver enzymes, thrombocytopenia, or fetal growth restriction.
- Expectant management should be considered for women remote from term who have mild preeclampsia.
- Antihypertensive therapy (with either hydralazine or labetalol) should be used for treatment of diastolic blood pressure levels of 105–110 mm Hg or higher.

Definitions:

Grades of Evidence

I Evidence obtained from at least one properly designed randomized controlled trial

II-1 Evidence obtained from well-designed controlled trials without randomization

II-2 Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

Levels of Recommendation

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate diagnosis and management of preeclampsia and eclampsia

POTENTIAL HARMS

Not stated

CONTRAINDICATIONS

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Regional anesthesia is generally contraindicated in the presence of a coagulopathy because of the potential for hemorrhagic complications.

QUALIFYING STATEMENTS

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These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2002 Jan

GUIDELINE DEVELOPER(S)

American College of Obstetricians and Gynecologists - Medical Specialty Society

SOURCE(S) OF FUNDING

American College of Obstetricians and Gynecologists (ACOG)

GUIDELINE COMMITTEE

American College of Obstetricians and Gynecologists (ACOG) Committee on Practice Bulletins-Obstetrics

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: None available

Print copies: Available for purchase from the American College of Obstetricians and Gynecologists (ACOG) Distribution Center, PO Box 4500, Kearneysville, WV 25430-4500; telephone, 800-762-2264, ext. 192; e-mail: sales@acog.org. The ACOG Bookstore is available online at the ACOG Web site.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on September 23, 2004. The information was verified by the guideline developer on December 9, 2004.

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DISCLAIMER

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